CPP程式設計題

命題者　PWC

題目名稱(中文/英文)：排行榜(Leaderboard)

主要測試觀念： 排序

Basics	Functions
■　　C++ BASICS 1	□　　SEPARATE COMPILATION AND
□　　　FLOW OF CONTROL	NAMESPACES
■　　FUNCTION BASICS	■　　STREAMS AND FILE I/O
□　　　PARAMETERS AND OVERLOADING	□　　RECURSION
■　　ARRAYS	□　　INHERITANCE
□　　　STRUCTURES AND CLASSES	□　　POLYMORPHISM AND VIRTUAL FUNCTIONS
□　　　CONSTRUCTORS AND OTHER TOOLS	□　　TEMPLATES
□　　　OPERATOR OVERLOADING, FRIENDS,AND	□　　LINKED DATA STRUCTURES
REFERENCES	□　　EXCEPTION HANDLING
■　　STRINGS	□　　STANDARD TEMPLATE LIBRARY
□　　　POINTERS AND DYNAMIC ARRAYS	□　　PATTERNS AND UML

題目說明：Consider a text file named scores.txt that contains player scores for a game. A possible sample is shown next where Ronaldo's best score is 10400, Didier's best score is 9800, etc. Put at least five names and scores in the file.

Ronaldo
10400
Didier
9800
Pele
12300
Kaka
8400
Cristiano
8000

Write a function named getHighScores that takes two array parameters, an array of strings and an array of integers. The function should scan through the file and set the string array entry at index 0 to the name of the player with the highest score and set the integer array entry at index 0 to the score of the player with the highest score. The string array entry at index 1 should be set to the name of the player with the second highest score and the integer array entry at index 1 should be set to the score of the player with the second highest score. Do the same for the entries at index 2. Together, these two arrays give you the names and scores of the top three players. In your main function, test the getHighScores function by calling it and outputting the top three players and scores.

輸入說明　Given an input file "scores.txt" which contains player's scores for a game.

輸出說明　Output the names and scores of top three players.

IO範例：

	Sample Input	Sample Output
第一組測資與輸出	scores.txt	Pele 12300 Ronaldo 10400 Didier 9800

附屬資料：

☑解答程式　Leaderboard.cpp(檔名)

☑測試資料　input1.txt, input2.txt, input3.txt, output1.txt, output2.txt, output3.txt

■ 易，僅需用到基礎程式設計語法與結構

□ 中，需用到多項程式設計語法與結構

□ 難，需用到多項程式結構或較為複雜之資料型態或結構

解題時間：20分鐘。

其他註記：

(1)　scores.txt的檔案內容如下:

Ronaldo
10400
Didier
9800
Pele
12300
Kaka
8400
Cristiano
8000

(2)　此題需要定義一個getHighScores的function, 然後有兩個參數分別是 array of strings 和 an array of integers。此方法需要讀取檔案內的所有資料並找出分數高的前三名的名字和分數, 並在main裡呼叫 getHighScores然後輸出分數高的前三名的名字和分數

(3)　此題不用考慮同分的情況